US008329785B2

(12) **United States Patent**
Langford

(10) **Patent No.: US 8,329,785 B2**
(45) **Date of Patent: Dec. 11, 2012**

(54) **LOW DUST JOINT COMPOUND**

(75) Inventor: **Nathaniel P. Langford**, Somerset, WI (US)

(73) Assignee: **3M Innovative Properties Company**, St. Paul, MN (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 673 days.

(21) Appl. No.: **12/124,206**

(22) Filed: **May 21, 2008**

(65) **Prior Publication Data**

US 2008/0216715 A1 Sep. 11, 2008

Related U.S. Application Data

(60) Continuation of application No. 11/357,872, filed on Feb. 17, 2006, now Pat. No. 7,407,996, which is a continuation of application No. 11/029,759, filed on Jan. 5, 2005, now Pat. No. 7,052,544, which is a division of application No. 10/788,053, filed on Feb. 26, 2004, now Pat. No. 6,863,723, which is a division of application No. 09/821,392, filed on Mar. 29, 2001, now Pat. No. 6,733,581, which is a continuation-in-part of application No. 09/208,782, filed on Dec. 10, 1998, now Pat. No. 6,358,309.

(51) **Int. Cl.**

C09K 3/10	(2006.01)
C09D 5/34	(2006.01)
C04B 14/18	(2006.01)
C04B 14/24	(2006.01)
C04B 14/14	(2006.01)

(52) **U.S. Cl.** **524/2**; 524/275; 524/276; 524/783; 106/270; 106/660; 106/675; 106/676; 106/677; 106/698; 106/272; 106/814; 106/489; 106/491

(58) **Field of Classification Search** 524/2, 275, 524/276, 783; 106/270, 660, 675, 676, 677, 106/698, 272, 814, 489, 491

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,117,833	A		5/1938	Wellner
3,183,107	A		5/1965	Alford
3,984,269	A		10/1976	Schneller et al.
4,038,443	A		7/1977	Jacoby
4,073,968	A		2/1978	Miyamoto et al.
4,136,050	A		1/1979	Brehm
4,171,276	A		10/1979	Brehm
4,238,239	A		12/1980	Brown
4,269,721	A		5/1981	Mueller et al.
4,286,995	A		9/1981	Smith et al.
4,294,622	A		10/1981	Brown
4,311,656	A		1/1982	Spriggs
4,316,811	A		2/1982	Burns et al.
4,336,071	A	*	6/1982	Schnorrer 106/198.1
4,369,121	A		1/1983	Callahan et al.
4,370,167	A		1/1983	Mudd
4,380,459	A		4/1983	Netting
4,391,647	A		7/1983	Deer et al.
4,400,220	A		8/1983	Cole, Jr.
4,417,992	A		11/1983	Bhattacharyya et al.
4,425,252	A		1/1984	Cargle et al.
4,428,984	A		1/1984	Shimizu et al.
4,451,605	A		5/1984	Theodore
4,454,267	A		6/1984	Williams
4,469,612	A		9/1984	Fenton
4,487,615	A		12/1984	Taylor et al.
4,549,966	A		10/1985	Beall
4,551,261	A		11/1985	Salihar
4,551,401	A		11/1985	Wilson
4,561,905	A		12/1985	Kittle
4,571,116	A		2/1986	Patil et al.
4,587,279	A		5/1986	Salyer et al.
4,650,598	A		3/1987	Roberts et al.
4,657,594	A		4/1987	Struss
4,686,253	A		8/1987	Struss et al.
4,737,305	A		4/1988	Dohner
4,780,143	A		10/1988	Roe
4,780,233	A		10/1988	Roe
4,782,632	A		11/1988	Matechuk
4,801,635	A		1/1989	Zinkan et al.
4,825,939	A		5/1989	Salyer et al.
4,836,945	A		6/1989	Kestner
4,897,218	A		1/1990	Roe

(Continued)

FOREIGN PATENT DOCUMENTS

CA	763000		7/1967
CA	763000	A *	7/1967
CA	1117989		2/1982
CA	2163191	A	5/1997
DE	199 54 829	A1	5/2001
EP	0 008 030	A1	2/1980
EP	0 352 585	A2	1/1990
EP	0 445 653	A1	9/1991
EP	530084	A1 *	3/1993

(Continued)

OTHER PUBLICATIONS

Translation to EP 530084 (1993).* Translation to JP 62098000 (1987).*

Translation to CA 763000 (1967).*

Webster's II New Riverside University Dictionary (c) 1984 by Houghton Mifflin Company, p. 242, definitions of cementitious and cement.

Primary Examiner — Kelechi Egwim

(74) *Attorney, Agent, or Firm* — David B. Patchett

(57) **ABSTRACT**

A wall repair compound useful for filling and repairing cracks, holes, and other imperfections in a wall surface includes a conventional filler material, a conventional binder material, and a dust reducing additive which reduces the quantity of airborne dust particles generated when sanding the hardened joint compound. Airborne dust reducing additives include oils, surfactants, solvents, waxes, and other petroleum derivatives. The additive can be added to conventional ready-mixed joint compounds and to setting type joint compounds. A method of reducing the quantity of airborne dust generated when sanding a fully hardened joint compound includes mixing a sufficient quantity of the dust reducing additive with the joint compound prior to when the joint compound has been applied to the wall.

17 Claims, 1 Drawing Sheet